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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,697	11/29/2001	Gordon Kerr	PAT 2678- 2 US	2599

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EXAMINER

EL CHANTI, HUSSEIN A

ART UNIT

PAPER NUMBER

2157

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/995,697	KERR ET AL.	
Examiner	Art Unit	
Hussein A. El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 32-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 32-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. This action is responsive to amendment received on Feb. 1, 2006. Claim 32 was amended. Claim 31 was canceled. Claims 1-30 and 32-39 are pending examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-30 and 32-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Vahalia et al., U.S. Patent No. 5,933,603 (referred to hereafter as Vahalia).

As to claim 1, Vahalia teaches an apparatus for processing data streams comprising:

at least one producer of properly ordered substreams of a data stream (fig 16 shows a plurality of produced substreams);

potential consumers of a data stream (fig 16 shows a plurality of clients); and

a stream fabric, coupled to the producer and the potential consumers, that operates to receive the substreams from the producer, store each substream within a stream queue associated with each data stream and select one of said plurality of potential consumers and output at least a portion of the data within the stream queue to the selected consumer (see col. 23 lines 55-col. 24 lines 62, clients request a stream to

be routed, in response the controller selects a stream server to satisfy the client request),

As to claim 2, Vahalia teaches an apparatus of claim 1, wherein the stream fabric operating to output at least a portion of the data within the stream queue to a consumer of the stream queue comprises reading a consumer attribute for the stream queue to determine an assigned consumer of the stream queue and outputting a portion of the data within the stream queue to the assigned consumer (see col. 23 lines 55-col. 24 lines 62).

As to claim 3, Vahalia teaches the apparatus of claim 1, Vahalia teaches selecting one of the potential consumers as a consumer for the stream queue based upon a predetermined criteria and outputting a portion of data within the stream queue to the selected consumer (see col. 23 lines 55-col. 24 lines 62).

As to claim 4, Vahalia teaches the apparatus of claim 3 wherein the predetermined criteria comprises a round robin system (see col. 11 lines 22-30).

As to claim 5, Vahalia teaches the apparatus of claim 1, wherein the predetermined criteria comprise determination of a least burdened potential consumer (see col. 23 lines 55-col. 24 lines 62).

As to claim 6, Vahalia teaches an apparatus of claim 1, wherein the stream fabric further operates to receive a control signal associated with the stream queue from the consumer of the stream queue (see col. 23 lines 55-col. 24 lines 62).

As to claim 7, Vahalia teaches an apparatus of claim 6, wherein the control signal comprises an indication of at least one consumer attribute for the stream queue (see col. 23 lines 55-col. 24 lines 62).

As to claim 8, Vahalia teaches an apparatus of claim 1, wherein the consumer attribute comprises the potential consumer that is assigned as the consumer of the stream queue (column 7 line 19-column 8 line 23).

As to claim 9, Vahalia teaches an apparatus of claim 6, wherein the consumer attribute comprises the number of bytes of the data within the stream queue that are to be output to the consumer of the stream queue (see col. 23 lines 55-col. 24 lines 62).

As to claim 10, Vahalia teaches an apparatus of claim 6, wherein the control signal comprises an indication of at least one attribute associated with the producer of the stream queue (see col. 23 lines 55-col. 24 lines 62).

As to claim 11, Vahalia teaches the apparatus of claim 6, wherein the control signal comprises an instruction to copy at least a portion of the data within the stream queue to the consumer of the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 12, Vahalia teaches the apparatus of claim 6, wherein the control signal comprises an instruction to forward at least a portion of the data within the stream queue to the consumer of the stream queue and to subsequently delete the portion of the data within the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 13, Vahalia teaches the apparatus of claim 6, wherein the control signal comprises an instruction to transfer at least a portion of the data within the stream

queue to another stream queue within the stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 14, Vahalia teaches the apparatus of claim 1, wherein the producer is an Input/Output (I/O) element arranged to be coupled to a packet switched network (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 15, Vahalia teaches the apparatus of claim 14, Wherein the I/O element operates to receive a flow of data packets, each of the data packets representing at least one segmented portion of the data stream; to terminate the layer 4 protocol within the received data packets; and to output properly ordered substreams of the data stream to the stream queue associated with the data stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 16, Vahalia teaches the apparatus of claim 15, wherein the I/O element operating to terminate the layer 4 protocol within the received data packets comprises removing the packet overhead from the received data packets, reordering the data within the received data packets into the proper order if necessary and requesting retransmission of any lost packets if necessary (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 17, Vahalia teaches the apparatus of claim 1, wherein the consumer of the stream queue is a processing element (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 18, Vahalia teaches the apparatus of claim 1 and claim 17, wherein the consumer of the stream queue is a content processing element that operates to

receive the data output from the stream queue, process contents of the data received from the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 19, Vahalia teaches the apparatus of claim 1, wherein the at least one control signal comprises an instruction to change a consumer attribute of the stream queue such that the consumer of the stream queue is changed to another one of the potential consumers (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 20, Vahalia teaches the apparatus of claim 1, wherein the other one of the potential consumers comprises an application processing element that operates to process the contents of the data received from the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 21, Vahalia teaches the apparatus of claim 20, wherein the a decryption element operates to decrypt the data received from the stream queue and output the decrypted data to a second stream queue within the stream fabric (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 22, Vahalia teaches the apparatus of claim 1, wherein the other one of the potential consumers comprises an Input/output (I/O) element coupled to a packet switched network, the I/O element operating to output the data within the stream queue to the packet switched network (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 23, Vahalia teaches the apparatus of claim 1, claim 17, claim 18, claim 19 and claim 22, Vahalia teaches adding a flow context identifier to the stream queue associated with the data stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 24, Vahalia teaches the apparatus of claim 1, claim 17 and claim 18, wherein the stream fabric comprises a plurality of stream queues and the content processing element is set as a default initial consumer of each of the stream queues within the stream fabric (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 25, Vahalia teaches the apparatus of claim 1, wherein the producer and one of the potential consumers are the same component (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 26, Vahalia teaches an apparatus for processing streams of data comprising: at least one producer of properly ordered substreams of a data stream (fig. 1, column 4 line 65 to column 5 line 24, the SAR engine is read as producer which has functions of segmentation of data stream and reassembly of data stream) ; a content processing element (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16); and a stream fabric, coupled to the producer and the content processing element, that operates to receive the substreams from the producer, store the substreams within a stream queue associated with the data stream and copy at least a portion of the data within the stream queue to the content processing element; wherein the content processing element operates to receive the data output from the stream queue, process contents of the data received from the stream queue and transmit at least one control signal to the stream fabric in response to the processing of the contents of the data (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 27, Vahalia teaches an apparatus of claim 26, Vahalia further teaches comprising at least one consumer of a data stream; and wherein the at least

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one control signal comprises an instruction for the stream fabric to forward further data from the stream queue to the consumer (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 28, Vahalia teaches an apparatus of claim 26 and claim 27, wherein the consumer comprises an application processing element that operates to process the contents of the data received from the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 29, Vahalia teaches an apparatus of claim 26 and claim 27, wherein the consumer comprises an Input/Output (110) element coupled to a packet switched network, the UO element operating to output the data within the stream queue to the packet switched network (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 30, Vahalia teaches a stream switch for directing, within a packet switched network, a data stream, the stream switch comprising: an interface, arranged to be coupled to the packet switched network, that operates to receive and process a flow of data packets from the packet switched network, each of the data packets representing at least one segmented portion of the data stream, and to output properly ordered substreams of the data stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16); and a content processing element that operates to receive a copy of at least a portion of the data within the stream queue, process contents of the data received from the stream queue and instruct the stream fabric to direct the data within the stream queue to a selected flow of packets within the packet switched network, via the

interface, in response to the processing of the contents of the data (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 32, Vahalia teaches a method of processing a data stream comprising: producing properly ordered substreams of a data stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16), producing segmentation of data stream and reassembly of data stream); storing each substream within a stream queue associated with each data stream within a switch fabric (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16); and outputting at least a portion of the data within the stream queue to a consumer of the stream queue, the consumer being one of a plurality of potential consumers (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 33, Vahalia teaches the method of claim 32, wherein the producing properly order substreams of a data stream comprises receiving a flow of data packets, each of the data packets representing at least one segmented portion of the data stream; and terminating the layer 4 protocol within the received data packets (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 34, Vahalia teaches the method of claim 32 and claim 33, wherein the terminating the layer 4 protocol within the received data packets comprises removing the packet overhead from the received data packets, reordering the data within the received data packets into the proper order if necessary and requesting retransmission of any lost packets if necessary (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 35, Vahalia teaches the method of claim 32, wherein the outputting at least a portion of the data within the stream queue to a consumer of the stream queue comprises processing contents of at least a portion of the data within the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16),

determining which of the potential consumers to select as the consumer for the stream queue based upon the contents of the at least a portion of the data within the stream queue and outputting at least a portion of the data within the stream queue to the selected consumer (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 36, Vahalia teaches an apparatus of claim 32 and claim 35, Vahalia further teaches processing the data received from the stream queue at the selected consumer of the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 37, Vahalia teaches the method of claim 36, wherein the a decryption element operates to decrypt the data received from the stream queue and output the decrypted data to a second stream queue within the stream fabric (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 38, Vahalia teaches an apparatus of claim 32, 35 and claim 36, wherein the processing the data received from the stream queue comprises outputting the data received from the stream queue to a packet switched network (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

As to claim 39, Vahalia teaches a method of processing a data stream comprising: producing properly ordered substreams of a data stream (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16);

storing the substreams within a stream queue associated with the data stream
(see col. 23 lines 55-col. 24 lines 62 and fig. 10-16);

processing contents within at least a portion of the data within the stream queue
to determine one of a plurality of potential consumers to select as a consumer of the
stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16); and

outputting at least a portion of the data within the stream queue to the selected
consumer of the stream queue (see col. 23 lines 55-col. 24 lines 62 and fig. 10-16).

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive. Applicant argues in substance that A) Vahalia does not disclose a switch fabric coupled to producers and consumers; B) Vahalia does not disclose processing at least a portion of data within the stream queue to select a consumer of the stream queue.

In response to A) Vahalia teaches a system and method for receiving requests for a multimedia stream on a server and routing the requests to content servers according to the client request (see abstract). Vahalia also teaches the controller server receives a client request where the controller server is located between the client and the content servers or the content storage locations (see col. 23 lines 55-co. 24 lines 25). The controller server located between the client "consumer" and the storage location of the video files "producers" inherently has a switch fabric and therefore the controller server taught by Vahalia meets the scope of the claimed limitation "a stream fabric coupled to the producer and the consumer".

In response to B) Vahalia also teaches the controller selects a stream server to service the client request according to the portion that is being requested (see col. 23 lines 1-29). Therefore Vahalia teaches "processing at least a portion of data within the stream queue to select a consumer of the stream queue".

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

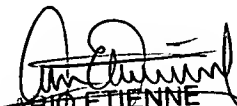
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

Feb. 14, 2006


ARIO ETIENNE
PRIMARY EXAMINER